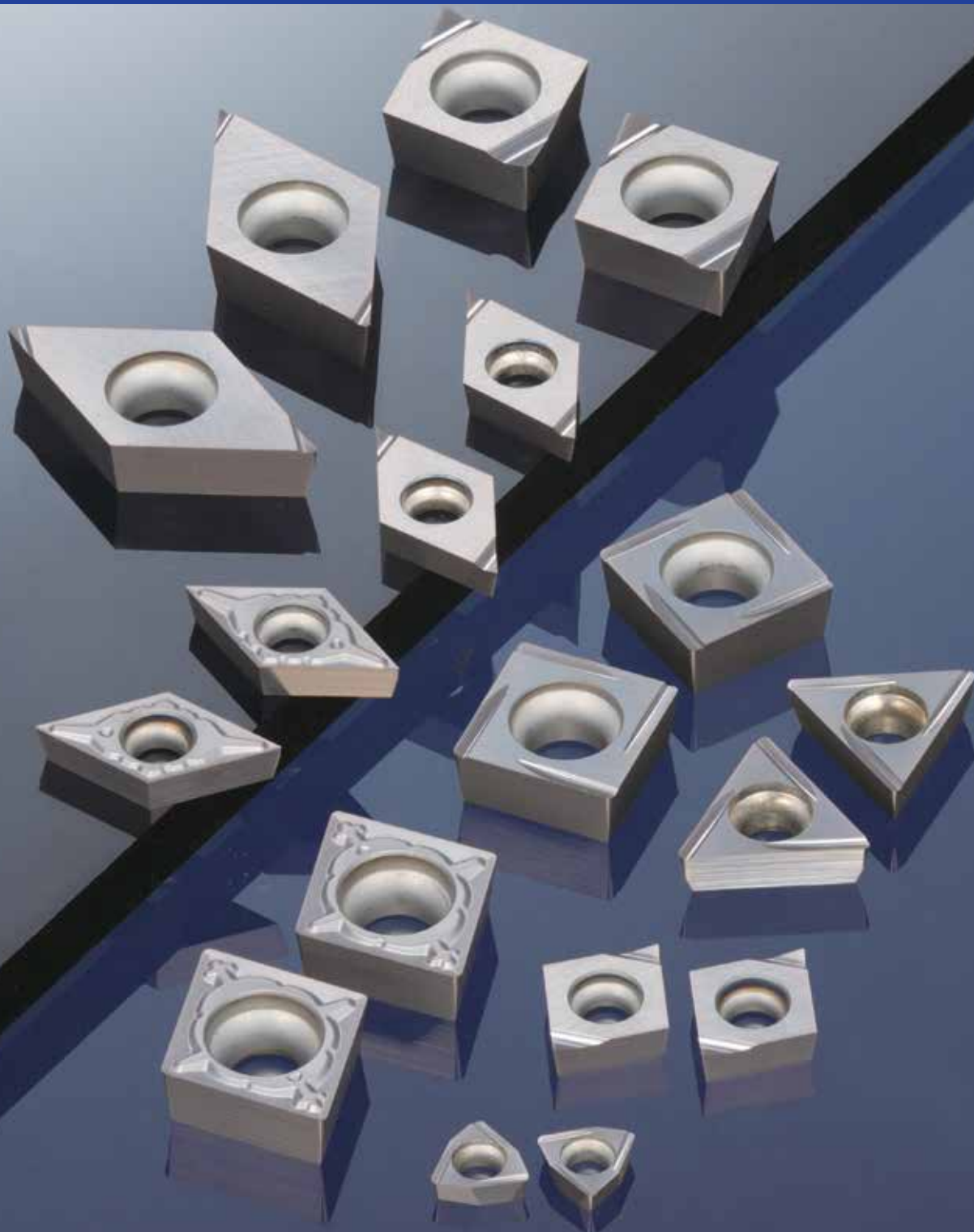


Coated Grade for High Precision Small Parts Turning

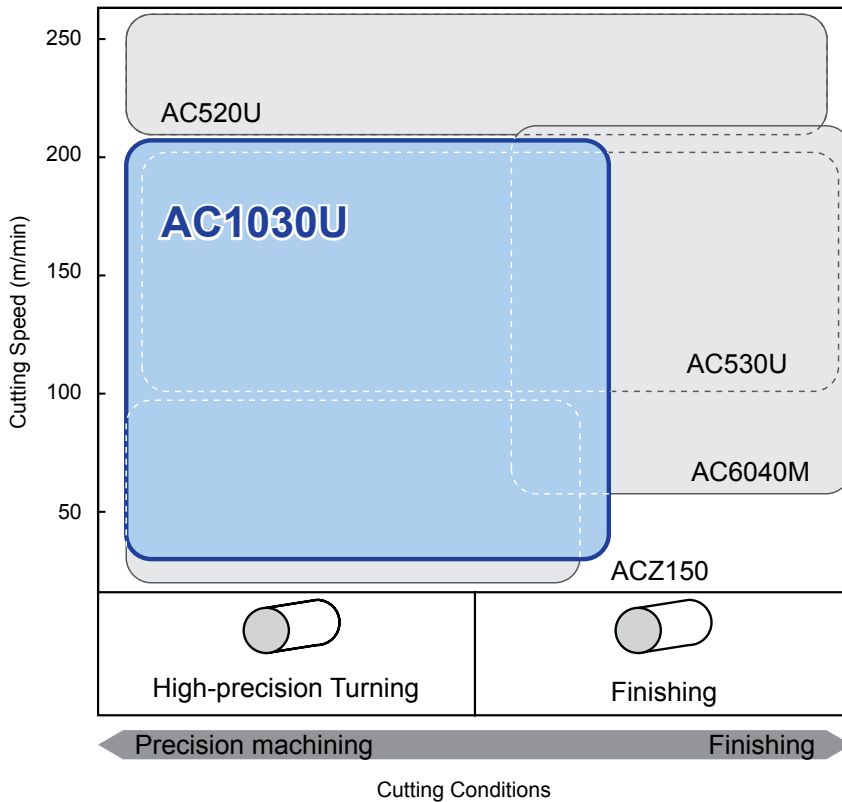
AC1030U



For High Precision Turning

AC1030U

Application Range



AC1030U

- New PVD coating „Absotech Bronze“ and special substrate are applied
- High quality cutting edge realizes excellent resistance against adhesion and micro chipping
- Better finished surface quality
- High performance turning of small precision parts
- Suitable for small inner diameter grooving applications

Excellent Wear and Chipping Resistance

New multi-layer coating

- Smooth surface layer
Improved surface quality
- High hardness layer
High wear resistance
- High adhesion strength
Excellent peeling resistance
- Tough carbide substrate
Good chipping resistance

New carbide substrate

Excellent Surface Finish Quality

High quality chip breaker by precision grinding

Conventional: $Rz=1,20\mu\text{m}$

AC1030U: $Rz=0,65\mu\text{m}$

Inhibit micro chipping and adhesion

Before Cutting

After Cutting

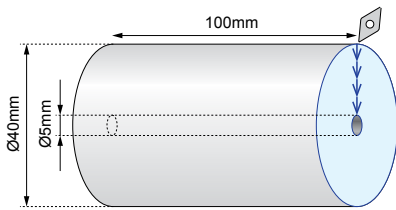
- AC1030U:** Good wear resistance, no film chipping
- Conventional:** Film chipping
- Competitor's:** Large wear

Surface Finish

- AC1030U:** $Rz=2,0\mu\text{m}$, Excellent cut surface
- Conventional:** $Rz=4,1\mu\text{m}$, Disturbance
- Competitor's:** $Rz=4,3\mu\text{m}$, Disturbance

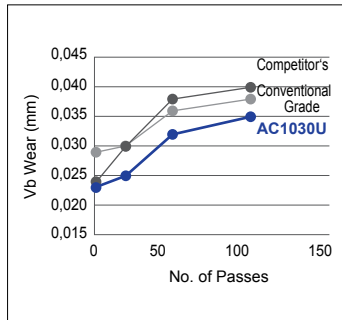
Material: 34CrMo4, OD finishing
 Insert: DCGT11T302RFY (AC1030U)
 Cutting Data: $v_c=50\text{m/min}$, $f=0,05\text{mm/rev}$, $a_p=0,1\text{mm}$, wet

Cutting Performance

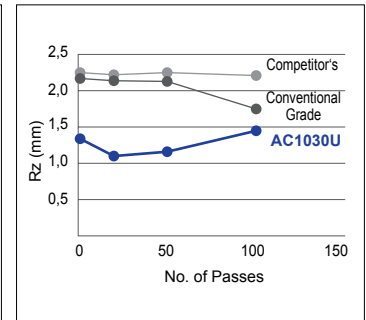


Material: X5CrNiS18-10, 1.4301
 Insert: DCGT11T302 RFY (AC1030U)
 Cutting Data: $v_c=100\text{m/min}$, $f=0,05\text{mm/rev}$, $a_p=0,1\text{mm}$, wet (Oil)

Wear Resistance

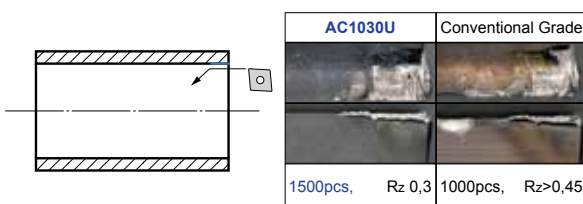


Roughness



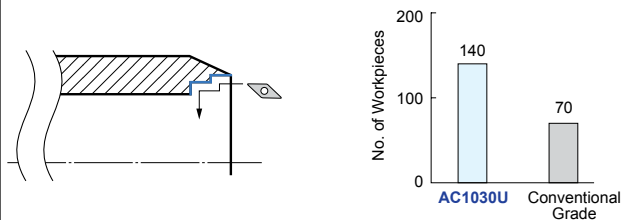
Application Examples

STKM12C-EC, Pipe



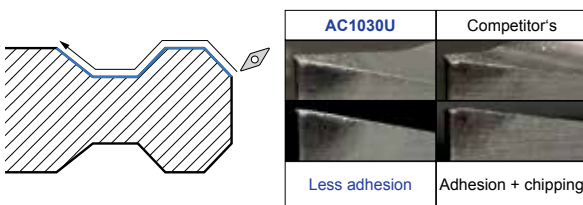
Insert: CCGT060201 LFX (AC1030U)
 Cutting Data: $v_c=196\text{m/min}$, $f=0,04\text{mm/rev}$, $a_p=0,4\text{mm}$, wet

C45, Stator Shaft



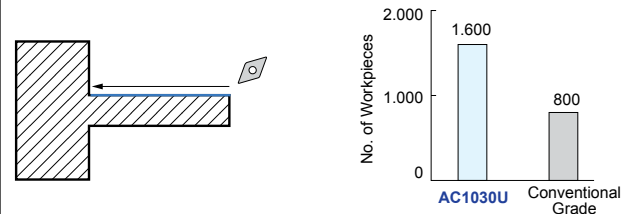
Insert: VCGT110302 RFX (AC1030U)
 Cutting Data: $v_c=195\text{m/min}$, $f=0,12\text{mm/rev}$, $a_p=0,175-0,25\text{mm}$, wet

X5CrNiS18-10, 1.4301, Valve Body



Insert: VCGT110301 RFY (AC1030U)
 Cutting Data: $v_c=31,5\text{m/min}$, $f=0,025\text{mm/rev}$, $a_p=0,2\text{mm}$, wet

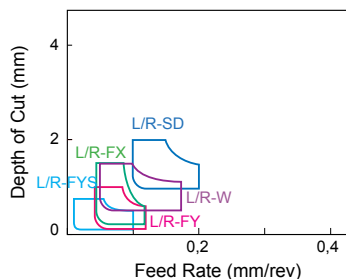
X6Cr17, Sensor Housing



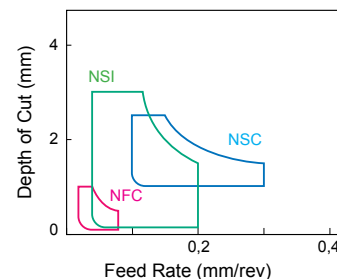
Insert: DCGT11T304M NFC (AC1030U)
 Cutting Data: $v_c=50\text{m/min}$, $f=0,06\text{mm/rev}$, $a_p=0,2\text{mm}$, wet

Application Range

G-Class Chipbreaker (Groove Design)



G-Class Chipbreaker (3D Design)



Recommended Cutting Conditions

Work Material Grade	P Free Cutting Steel		P Carbon Steel		M Stainless Steel		N Non-Ferrous Metals	
	v_c (m/min)	f (mm/rev)	v_c (m/min)	f (mm/rev)	v_c (m/min)	f (mm/rev)	v_c (m/min)	f (mm/rev)
AC1030U	50 ~ 200	0,02 ~ 0,15	50 ~ 200	0,02 ~ 0,10	50 ~ 150	0,02 ~ 0,10	70 ~ 300	0,05 ~ 0,20

Positive Inserts

80° Diamond Type

Shape	Relief Angle	Cat. No.	Grade		Dimensions (mm)								
			AC1030U	Inscribed Circle	Thickness	Screw Hole Ø	Nose Radius						
	7°	CCGT 060201M NFC	●	6,35	2,38	2,8	<0,1	<0,2					
		060202M NFC	●										
		060204M NFC	●										
		CCGT 09T301M NFC	●						9,525	3,97	4,4	<0,1	<0,2
		09T302M NFC	●										
09T304M NFC	●												
	7°	CCGT 0602003 RFX	○	6,35	2,38	2,8	0,03	0,03					
		0602003 LFX	○										
		060201 RFX	○										
		060201 LFX	○										
		060202 RFX	●										
		060202 LFX	●										
		060202 RFX	●										
		060202 LFX	●										
		060204 RFX	●										
		060204 LFX	●										
		CCGT 09T3003 RFX	○						9,525	3,97	4,4	0,03	0,03
		09T3003 LFX	○										
		09T301 RFX	●										
		09T301 LFX	●										
		09T302 RFX	●										
09T302 LFX	●												
09T302 RFX	●												
09T302 LFX	●												
09T304 RFX	●												
09T304 LFX	●												
09T308 RFX	○												
09T308 LFX	○												
	7°	CCGT 03X1003 RFYS	○	3,5	1,4	1,8	0,03	0,03					
		03X1003 LFYS	○										
		03X101 RFYS	○										
		03X101 LFYS	○										
		03X102 RFYS	○										
		03X102 LFYS	○										
		03X104 RFYS	○										
		03X104 LFYS	○										
		CCGT 04X1003 RFYS	○						4,3	1,8	2,3	0,03	0,03
		04X1003 LFYS	○										
		04X101 RFYS	○										
04X101 LFYS	○												
04X102 RFYS	○												
04X102 LFYS	○												
04X104 RFYS	○												
04X104 LFYS	○												
	7°	CCGT 03X101 RFY	○	3,5	1,4	1,8	0,1	0,1					
		03X101 LFY	○										
		03X102 RFY	○										
		03X102 LFY	○										
		03X104 RFY	○										
		03X104 LFY	○										
		CCGT 04X101 RFY	○						4,3	1,8	2,3	0,1	0,1
		04X101 LFY	○										
		04X102 RFY	○										
		04X102 LFY	○										
04X104 RFY	○												
04X104 LFY	○												
	7°	CCGT 09T301M NSI	●	9,525	3,97	4,4	<0,1	<0,2					
		09T302M NSI	●										
		09T304M NSI	●										
	7°	CCGT 0602003 NSC	○	6,35	2,38	2,8	0,03	<0,1					
		CCGT 060201M NSC	○										
		060202M NSC	●										
		060204M NSC	●										
		CCGT 09T3003 NSC	●						9,525	3,97	4,4	0,03	<0,1
		CCGT 09T301M NSC	●										
		09T302M NSC	●										
		09T304M NSC	●										
		09T308M NSC	●										

55° Diamond Type

Shape	Relief Angle	Cat. No.	Grade		Dimensions (mm)										
			AC1030U	Inscribed Circle	Thickness	Screw Hole Ø	Nose Radius								
	7°	DCGT 070201M NFC	●	6,35	2,38	2,8	<0,1	<0,2							
		070202M NFC	●												
		070204M NFC	●												
		DCGT 11T301M NFC	●						9,525	3,97	4,4	<0,1	<0,2		
		11T302M NFC	●												
11T304M NFC	●														
	7°	DCGT 0702003 RFX	○	6,35	2,38	2,8	0,03	0,03							
		0702003 LFX	○												
		070201 RFX	●												
		070201 LFX	●												
		070202 RFX	●												
		070202 LFX	●												
		070202 RFX	●												
		070202 LFX	●												
		070204 RFX	●												
		070204 LFX	●												
		DCGT 11T3003 RFX	○						9,525	3,97	4,4	0,03	0,03		
		11T3003 LFX	○												
		11T301 RFX	●												
		11T301 LFX	●												
		11T302 RFX	●												
11T302 LFX	●														
11T302 RFX	●														
11T302 LFX	●														
11T304 RFX	●														
11T304 LFX	●														
	7°	DCGT 0702003 RFYS	○	6,35	2,38	2,8	0,03	0,03							
		0702003 LFYS	○												
		070201 RFYS	○												
		070201 LFYS	○												
		070202 RFYS	○												
		070202 LFYS	○												
		070204 RFYS	○												
		070204 LFYS	○												
		DCGT 11T3003 RFYS	○						9,525	3,97	4,4	0,03	0,03		
		11T3003 LFYS	○												
		11T301 RFYS	○												
11T301 LFYS	○														
11T302 RFYS	○														
11T302 LFYS	○														
11T304 RFYS	○														
11T304 LFYS	○														
	7°	DCGT 0702003 RFY	○	6,35	2,38	2,8	0,03	0,03							
		0702003 LFY	○												
		070201 RFY	○												
		070201 LFY	○												
		070202 RFY	○												
		070202 LFY	○												
		070204 RFY	○												
		070204 LFY	○												
		DCGT 11T3003 RFY	○						9,525	3,97	4,4	0,03	0,03		
		11T3003 LFY	○												
11T301 RFY	○														
11T301 LFY	○														
11T302 RFY	○														
11T302 LFY	○														
11T304 RFY	○														
11T304 LFY	○														
	7°	DCGT 070201M NSI	●	6,35	2,38	2,8	<0,1	<0,2							
		070202M NSI	●												
		070204M NSI	●												
		DCGT 11T301M NSI	●						9,525	3,97	4,4	<0,1	<0,2		
		11T302M NSI	●												
		11T304M NSI	●												
		11T308M NSI	●												
			7°						DCGT 0702003 NSC	○	6,35	2,38	2,8	0,03	<0,1
									070201M NSC	●					
									070202M NSC	●					
070204M NSC	●														
DCGT 11T3003 NSC	○			9,525	3,97	4,4	0,03	<0,1							
DCGT 11T301M NSC	●														
11T302M NSC	●														
11T304M NSC	●														
11T308M NSC	●														

Note:
Different model notation applies to products with negative nose tolerance (M).

DCGT 11T304 M NSI

↓
Negative tolerance symbol

● Euro stock
○ Japan stock

For High Precision Turning

AC1030U

Positive Type Inserts

○ Square Type

Shape	Relief Angle	Cat. No.	Grade	Dimensions (mm)			
			AC1030U	Inscribed Circle	Thickness	Screw Hole Ø	Nose Radius
	7°	SCGT 09T302 RFX	○	9,525	3,97	4,4	0,2
		09T302 LFX	○				0,2
		09T304 RFX	○				0,4
		09T304 LFX	○				0,4
		SCGT 120404 RFX	○				12,7
120404 LFX	○	0,4					
	7°	SCGT 070201M NSC	○	7,94	2,38	3,4	<0,1
		070202M NSC	○				<0,2
		SCGT 09T301M NSC	○				9,525
09T302M NSC	○	<0,2					

△ Triangular Type

Shape	Relief Angle	Cat. No.	Grade	Dimensions (mm)									
			AC1030U	Inscribed Circle	Thickness	Screw Hole Ø	Nose Radius						
	5°	TBGT 060102 RFX	●	3,97	1,59	2,2	0,2						
		060102 LFX	●				0,2						
		060104 RFX	●				0,4						
		060104 LFX	●				0,4						
	5°	TBGT 060101 RFX	○	3,97	1,59	2,2	0,1						
		060101 LFX	○				0,1						
		060102 RFX	○				0,2						
		060102 LFX	○				0,2						
		060104 RFX	○				0,4						
		060104 LFX	○				0,4						
	5°	TBGT 060102 RW	●	3,97	1,59	2,2	0,2						
		060102 LW	●				0,2						
		060104 RW	●				0,4						
		060104 LW	●				0,4						
	7°	TCGT 090201 RFX	○	5,56	2,38	2,5	0,1						
		090201 LFX	○				0,1						
		090202 RFX	○				0,2						
		090202 LFX	○				0,2						
		TCGT 110201 RFX	○				6,35	2,38	2,8	0,1			
		110201 LFX	○							0,1			
110202 RFX	○	0,2											
110202 LFX	○	0,2											
	7°	TCGT 090201 RFX	○	5,56	2,38	2,5	0,1						
		090201 LFX	○				0,1						
		090202 RFX	○				0,2						
		090202 LFX	○				0,2						
		TCGT 110201 RFX	○				6,35	2,38	2,8	0,1			
		110201 LFX	○							0,1			
110202 RFX	○	0,2											
110202 LFX	○	0,2											
	7°	TCGT 110204M NSI	●	6,35	2,38	2,8	<0,4						
	7°	TCGT 080201M NSC	○	4,76	2,38	2,3	<0,1						
		080202M NSC	○				<0,2						
		TCGT 090201M NSC	○				5,56	2,38	2,5	<0,1			
		090202M NSC	○							<0,2			
		TCGT 110201M NSC	○							<0,1			
110202M NSC	○	6,35	2,38	2,8	<0,2								
110204M NSC	●				<0,4								
	11°	TPGT 110302M NFC	○	6,35	3,18	3,4	<0,2						
		110304M NFC	○				<0,4						
	11°	TPGT 080202 RFX	○	4,76	2,38	2,4	0,2						
		080202 LFX	○				0,2						
		080204 RFX	○				0,4						
		080204 LFX	○				0,4						
		TPGT 110302 RFX	●				6,35	3,18	3,4	0,2			
		110302 LFX	●							0,2			
		110304 RFX	●							0,4			
		110304 LFX	●							0,4			
		110308 RFX	○							0,8			
		110308 LFX	○							0,8			
		TPGT 160304 RFX	○							9,525	3,18	4,4	0,4
		160304 LFX	○										0,4
		160308 RFX	○				0,8						
160308 LFX	○	0,8											

△ Triangular Type

Shape	Relief Angle	Cat. No.	Grade	Dimensions (mm)						
			AC1030U	Inscribed Circle	Thickness	Screw Hole Ø	Nose Radius			
	11°	TPGT 0802003 RFX	○	4,76	2,38	2,4	0,03			
		0802003 LFX	○				0,03			
		080201 RFX	○				0,1			
		080201 LFX	○				0,1			
		080202 RFX	○				0,2			
		080202 LFX	○				0,2			
		080204 RFX	○				0,4			
		080204 LFX	○				0,4			
		TPGT 090201 RFX	○				5,56	2,38	2,3	0,1
		090201 LFX	○							0,1
		090202 RFX	○							0,2
		090202 LFX	○							0,2
		090204 RFX	○							0,4
090204 LFX	○	0,4								
	11°	TPGT 1103003 RFX	○	6,35	3,18	3,4	0,03			
		1103003 LFX	○				0,03			
		110301 RFX	○				0,1			
		110301 LFX	○				0,1			
		110302 RFX	○				0,2			
		110302 LFX	○				0,2			
		110304 RFX	○				0,4			
		110304 LFX	○				0,4			
		110308 RFX	○				0,8			
		110308 LFX	○				0,8			
		TPGT 160302 RFX	○				9,525	3,18	4,4	0,2
160302 LFX	○	0,2								
160304 RFX	○	0,4								
160304 LFX	○	0,4								
160308 RFX	○	0,8								
160308 LFX	○	0,8								
	11°	TPGT 080202 RW	○	4,76	2,38	2,4	0,2			
		080202 LW	○				0,2			
		080204 RW	●				0,4			
		080204 LW	●				0,4			
		TPGT 110302 RW	●				6,35	3,18	3,4	0,2
		110302 LW	●							0,2
110304 RW	●	0,4								
110304 LW	●	0,4								
	11°	TPGT 110302 RSD	○	6,35	3,18	3,4	0,2			
		110302 LSD	○				0,2			
		110304 RSD	○				0,4			
		110304 LSD	○				0,4			
		110308 RSD	○				0,8			
		110308 LSD	○				0,8			

◇ 35° Diamond Type

Shape	Relief Angle	Cat. No.	Grade	Dimensions (mm)			
			AC1030U	Inscribed Circle	Thickness	Screw Hole Ø	Nose Radius
	5°	VBGT 110301 RFX	○	6,35	3,18	2,8	0,1
		110301 LFX	○				0,1
		110302 RFX	○				0,2
		110302 LFX	○				0,2
		110304 RFX	○				0,4
		110304 LFX	○				0,4
	5°	VBGT 1103003 RFYS	○	6,35	3,18	2,8	0,03
		1103003 LFYS	○				0,03
		110301 RFYS	○				0,1
		110301 LFYS	○				0,1
		110302 RFYS	○				0,2
		110302 LFYS	○				0,2
		110304 RFYS	○				0,4
		110304 LFYS	○				0,4
		110308 RFYS	○				0,8
110308 LFYS	○	0,8					
	5°	VBGT 110301 RFX	○	6,35	3,18	2,8	0,1
		110301 LFX	○				0,1
		110302 RFX	○				0,2
		110302 LFX	○				0,2
		110304 RFX	○				0,4

● Euro stock

○ Japan stock

Positive Type Inserts

35° Diamond Type

Shape	Relief Angle	Cat. No.	Grade	Dimensions (mm)						
				Inscribed Circle	Thickness	Screw Hole Ø	Nose Radius			
	5°	VBGT 110301M NSI	○	6,35	3,18	2,8	<0,1			
		110302M NSI	○				<0,2			
		110304M NSI	○				<0,4			
		110308M NSI	○				<0,8			
	7°	VBGT 160401M NSI	○	9,525	4,76	4,4	<0,1			
		160402M NSI	○				<0,2			
		160404M NSI	○				<0,4			
		160408M NSI	○				<0,8			
	7°	VCGT 080204M NFC	○	4,76	2,38	2,3	<0,4			
		VCGT 110301M NFC	●	6,35	3,18	2,8	<0,1			
		110302M NFC	●				<0,2			
		110304M NFC	●				<0,4			
	VCGT 110301 RFX	●	6,35				3,18	2,8	0,1	
	110301 LFX	●		0,1						
	110302 RFX	●		0,2						
	110302 LFX	●		0,2						
	7°	110304 RFX	○	6,35	3,18	2,8	0,4			
		110304 LFX	●				0,4			
		VCGT 110301 RFY	○				6,35	3,18	2,8	0,1
		110301 LFY	○							0,1
	110302 RFY	○	0,2							
	110302 LFY	○	0,2							
		7°	110304 RFY	○	6,35	3,18	2,8	0,4		
			110304 LFY	○				0,4		
VCGT 110301M NSI			●	6,35				3,18	2,8	<0,1
110302M NSI			●							<0,2
110304M NSI		●	<0,4							
110308M NSI		●	<0,8							
7°		VCGT 160401M NSI	●	9,525	4,76	4,4	<0,1			
		160402M NSI	●				<0,2			
	160404M NSI	●	<0,4							
	160408M NSI	○	<0,8							

TrigonType

Shape	Relief Angle	Cat. No.	Grade	Dimensions (mm)			
				Inscribed Circle	Thickness	Screw Hole Ø	Nose Radius
	5°	WBGT 060102 RFX	●	3,97	1,59	2,2	0,2
		060102 LFX	●				0,2
		060104 RFX	●				0,4
		060104 LFX	●				0,4
	7°	WBGT 080202 RFX	○	4,76	2,38	2,4	0,2
		080202 LFX	○				0,2
		080204 RFX	○				0,4
		080204 LFX	○				0,4
	5°	WBGT 060102 RFY	○	3,97	1,59	2,2	0,2
		060102 LFY	○				0,2
		060104 RFY	○				0,4
		060104 LFY	○				0,4
	5°	WBGT 060102 RW	●	3,97	1,59	2,2	0,2
		060102 LW	●				0,2
		060104 RW	●				0,4
		060104 LW	●				0,4

Negative Type Inserts

Triangular Type

Shape	Cat. No.	Grade	Dimensions (mm)			
			Inscribed Circle	Thickness	Screw Hole Ø	Nose Radius
	TNGG 160402 RFY	○	9,525	4,76	3,81	0,2
	160402 LFY	○				0,2
	160404 RFY	○				0,4
	160404 LFY	○				0,4
	160408 RFY	○				0,8
	160408 LFY	○				0,8
	TNGG 160402 RFX	○	9,525	4,76	3,81	0,2
	160402 LFX	○				0,2
	160404 RFX	○				0,4
	160404 LFX	○				0,4
	160408 RFX	○				0,8
	160408 LFX	○				0,8

GNDIS Grooving Inserts

Shape	Type	Cat. No.	Grade	Dimensions (mm)				
				Cutting Width	Tolerance	r _E	ℓ	s
	ML	GXM N2002S ML	○					
		N3002S ML	○	3,0	±0,03	0,2	11,1	3,1
	GF	GXM N150005S GF	○	1,5	±0,03	0,05	11,1	3,1
		N2002S GF	○	2,0	±0,03	0,2	11,1	3,1
		N3002S GF	○	3,0	±0,03	0,2	11,1	3,1

- Euro stock
- Japan stock



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